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UD Engineering, Sociology Students Help Design Montgomery County Juvenile Justice Center

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NEWS RELEASE

UD ENGINEERING, SOCIOLOGY STUDENTS HELP DESIGN MONTGOMERY COUNTY JUVENILE JUSTICE CENTER

DAYTON, Ohio — University of Dayton engineering and sociology students are in the process of designing a juvenile justice facility that focuses on socialization as well as security, and some of their work is being incorporated into the new Montgomery County Juvenile Justice Center to be constructed downtown beginning this summer.

"Inevitably the students will come up with good ideas that no one else has that will be incorporated into the building," said Joseph E. Saliba, professor of civil and environmental engineering and engineering mechanics. "I am always amazed every year with the different perspectives they come up with."

Students in the civil engineering capstone course tackle a real-world project each year. They function as an engineering firm, with a CEO and work groups specializing in structure, transportation and utilities while being mentored by professional engineers. The 34 students in the course will present their project for county officials at 1:30 p.m. Thursday, April 3, in Sears Recital Hall in the Jesse Philips Humanities Center.

The new wrinkle for the capstone course this year is the addition of three sociology students, who are using the juvenile justice center for independent study projects. Most detention centers for troubled youth are designed to be secure and safe, but they don't necessarily encourage social and personal growth, which is where the sociologists come in.

The seemingly odd pairing of disciplines has had an unexpected outcome. "It's changed the way I think," Saliba said. "My students and I from now on will investigate users of a building before designing it. There is a deeper meaning to designing infrastructures. We are the builders of civilization."

As it is now, engineers design buildings without taking users into account, and sociologists study the interaction of people and take space for granted, according to H. Frances Pestello, professor of sociology, anthropology and social work at UD. "Both sides should pay more attention to what the other is doing. This interaction is getting students to think deeply about sociology and engineering and how to do their jobs.

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"A lot of these kids, who are usually between 10 and 17, seriously troubled and engaged in serious behavior, need discipline and a structured day," she said. "They're getting school, three meals a day, a shower and a bed. But we put them in fairly punitive kinds of circumstances. It may not look like a jail, but I bet it feels like a jail.

"I don't think the building can fix the problem; I'm not naïve," she said. "But if the goal is to socialize these kids so they can rejoin their families and think on their own, isolating them in locked rooms where they have no freedom to interact won't do it."

The collaboration won praise from Mark Jacobs, associate professor of sociology at George Mason University and author of *Screwing the System and Making it Work: Juvenile Justice in the No-Fault Society*. "It represents an unusual, perhaps unique, experiment in interdisciplinarity. It is a valuable learning experience for civil engineers to take into consideration the stories and concerns of the people who will be using their structures, just as it is for sociologists to test their theories against such direct real-world applications."

Part of the reason institutions look the way they do is that they must conform to strict building codes. "A three- or five-hour fire rating determines that cinder blocks must be used," Saliba said. "But that's security, not rehab. You don't want the kids to escape, you want to keep them in place, put out the fire and then take them to another facility. You sacrifice a lot of intrinsic programming because of one overriding concern."

Smaller details may help, he said. "Now I see a lack of texture, culture, art, color and light. We know art can affect people in a caring way. We need to see the juvenile justice center not as a place where we send our problems, rather a place where we set juveniles on the right track."

The civil engineers in the capstone course are also joined by mechanical engineering students this semester. They're designing the heating, ventilation and air conditioning system through UD's Design and Manufacturing Clinic.

"That interaction has been very fruitful," Saliba said. "Students are seeing that we're down in the trenches together solving the problem, just looking at different aspects."

Previous capstone course students suggested the Cedarville wastewater treatment plant use fluorescent light rather than chemicals to treat bacteria, and it was incorporated into the plans. Last year's class helped design ArtStreet, the innovative living and learning complex to be built in the south student neighborhood.

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